

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (Currently Amended) A conductive ball comprising:
a core formed in a generally spherical shape and formed of a nonmetallic material; and
a coating layer coating a surface of the core and having at least a first metal layer and a second metal layer,
wherein the first metal layer is the outermost layer of the conductive ball and made of a first alloy containing Sn and having noneutectic composition,
wherein the second metal layer is made of ~~a second alloy containing at least either Cu or Ni and has a thickness of 3 µm or more~~, and
wherein the first metal layer and the second metal layer are in contact with each other.
2. (Original) The conductive ball as defined in Claim 1, wherein
the first alloy has composition in which a liquidus temperature rises when a proportion of Sn in composition decreases.
3. (Original) The conductive ball as defined in Claim 2, wherein
the first alloy has composition closer to eutectic composition than to composition whose constituent forms an intermetallic compound.
4. (Original) The conductive ball as defined in Claim 2, wherein
the first alloy has composition in which a liquidus temperature is 240 °C or higher.
5. (Original) The conductive ball as defined in Claim 2, wherein
the first alloy has composition in which a liquidus temperature is 260 °C or higher.

6. (Original) The conductive ball as defined in Claim 1, wherein the first alloy contains Ag, and a proportion of the Ag in composition is larger than 3.5 weight %.

7. (Original) The conductive ball as defined in Claim 1, wherein the first alloy contains Ag, and a proportion of the Ag in composition is 4 weight % or larger.

8. (Original) The conductive ball as defined in Claim 1, wherein the first alloy contains Ag, and a proportion of the Ag in composition is 5.5 weight % or larger.

9. (Original) The conductive ball as defined in Claim 5, wherein in the first alloy, a proportion of the Ag in composition is smaller than 75 weight %.

10. (Original) The conductive ball as defined in Claim 5, wherein in the first alloy, a proportion of the Ag in composition is 37 weight % or lower.

11. (Original) The conductive ball as defined in Claim 5, wherein in the first alloy, a proportion of the Ag in composition is 6.5 weight % or lower.

12. (Withdrawn) A formation method for an electrode of an electronic component comprising:
disposing the conductive ball as defined in Claim 1 on a land of an electronic component; and

heating the conductive ball disposed on the land of the electronic component, wherein

a maximum temperature for heating the conductive ball is a liquidus temperature of the first alloy or lower.

13. (Withdrawn) A formation method for an electrode of an electronic component comprising:

disposing a joint member containing a third alloy on at least either the conductive ball as defined in Claim 1 or a land of an electronic component;

disposing the conductive ball on the land of the electronic component; and heating the conductive ball and the joint member, wherein

a maximum temperature for heating the conductive ball and the joint member is a liquidus temperature of a first alloy of the conductive ball or lower, and is a liquidus temperature of a third alloy of the joint member or higher.

14. (Withdrawn) A formation method for an electrode of an electronic component comprising:

attaching flux to at least either the conductive ball as defined in Claim 1 or a land of an electronic component;

disposing the conductive ball on the land of the electronic component; and heating the conductive ball, wherein
the flux contains 0.2 weight % or more halogen.

15. (Previously Presented) An electronic component having an electrode using the conductive ball as defined in Claim 1.

16. (Withdrawn) An electronic component having an electrode formed by the formation method for an electrode as defined in Claim 12.

17. (Withdrawn) An electronic component having an electrode formed by the formation method for an electrode as defined in Claim 13.

18. (Withdrawn) An electronic component having an electrode formed by the formation method for an electrode as defined in Claim 14.

19. (Original) Electronic equipment including the electronic component as defined in Claim 15.

20. (Withdrawn) Electronic equipment including the electronic component as defined in Claim 16.

21. (Withdrawn) Electronic equipment including the electronic component as defined in Claim 17.

22. (Withdrawn) Electronic equipment including the electronic component as defined in Claim 18.

23. (Withdrawn) The conductive ball as defined in Claim 1, wherein the first alloy is a SnPb-based alloy that contains 38.1% to 80.8% Pb.

24. (Withdrawn) The conductive ball as defined in Claim 1, wherein the first alloy is a SnBi-based alloy that contains 57% to 99.9% Bi.

25. (Withdrawn) The conductive ball as defined in Claim 1, wherein the first alloy is a SnZn-based alloy that contains 8.8 to 99.9% Zn.